**Brains + Brawns**

**Combat Code Guidelines**

**🡪Screens**

1. Title Screen (Optional)
2. Character Creation
3. Combat Encounter
4. Victory/Loss Screen
5. Log Screen

**2. Character Creation**

* **Player Character Class:**
* Name
* Class [“Wizard”,”Knight”,”Archer”]
* HP, Attack, Defense, Speed
* MHP, MAttack, MDefense, MSpeed   
  #Modifiers for character creation, determined by Class
* MoveName, MoveDMG
* PotionCount
* **Enemy Class:**
  + Name
  + HP, Attack, Defense, Speed
  + Move1, Move1DMG   
    # Attack that targets a single player
  + Move2, Move2DMG   
    # Attack that damages all players a small amount
  + WeaknessCode   
    # Code that will divide all damage output by some factor
* **RollStats() Function:**
* This function will use randomisation and modifiers to determine the stats of each player character.
* For each stat, (HP, Attack, etc.), it will pick a random number between 1 and 10
* Then, the modifier stats (MHP, MAttack, etc. which are values like +2, -4), they will be added to the respective random numbers “rolled” for each stat
* The final stats for each player must be displayed for reference

**3. Combat Encounter:**

1. Option to skip combat (if team has solved riddle)
2. Option to enter weakness code before start of actual combat   
   (if code is correct, all damage by enemy to players will be permanently reduced by some large factor). If weakness code is used, it must be logged in the log screen (for future reference)
3. Calculate order of turns based on descending order of speed stat of each player and enemy
4. **Player Move Choice Menu:**
5. **Attack**  
   Choose move  
   Calculate damage (player 🡪 enemy)  
   Inflict damage on enemy
6. **Guard**  
   Temporarily reduce enemy damage by some factor for just the next attack by enemy
7. **Heal**  
   Use a potion to heal some x amount of HP  
   Decrement PotionCount

* Update log screen to show damage dealt, and updated hp
* Always display the name of entity whose turn is at the top
* Remove enemy and go to victory screen from combat if enemy HP == 0

1. **Enemy Choice Menu:**
2. **Attack:**  
   Move 1:

Select player to target   
Calculate damage (enemy 🡪player)  
Inflict damage on player

Move 2:

Calculate damage per player (enemy 🡪player)

Inflict damage on each player

* Update log screen to show damage dealt, updated hp, etc
* Remove player from combat if player HP == 0

**Damage Calculation Functions:**

1. **Player To Enemy**

* calculateDMG\_P2E()
* arguments:
* Player Character Class:Attack, MoveDMG
* Enemy Class: HP, Defense

1. **Enemy To Player**

* calculateDMG\_E2P()
* arguments:
* MoveNum (1 or 2), MoveNumDMG
* Enemy Class: Attack
* Player Character Class: HP, Defense

**4. Victory/Loss Screen**

* Display whether players lost or won in the combat encounter
* If lost, end program after logging any info needed
* If won, display current player status and move to next combat encounter screen

**5. Log Screen**

* This is a very crucial part of the whole program because:
* It will not only help the DMs inform the player about the happenings of the combat mechanics behind the screen,
* It can also be used at the last stage of the event in case any tie-breaking is required in selecting the winner team.
* It will have 2 main outputs:

1. **Log Screen:**

* It will display messages on screen alongside the main window that show what is happening behind the screen.
* It will also include small details like “Combat Encounter With [Enemy] Started”, etc.
* It will also display player status at the end of each combat encounter
* At the end of the game, show player status and also whether they solved it using the riddle or combat. In the case of combat, also show if they used the weakness code or not.

1. **Log File:**

* All the outputs displayed on the log screen, will be stored in a text file
* This text file must be saved and should be easily accessible so it can be referred to at the end of the event for breaking any ties or solving any confusions with the rules and functioning
* **PlayerStatus() Function:**
* It will go through all players in a team and display the following stats for each player:  
  Name, HP, PotionCount
* It will also display how many encounters they’ve cleared so far